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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/727,748 | 11/30/2000 | Prathap Haridoss | 10964-043001/ Case 629 | 4182 |

7590 10/30/2002

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EXAMINER

CANTELMO, GREGG

| | |
|----------|--------------|
| ART UNIT | PAPER NUMBER |
|----------|--------------|

1745

DATE MAILED: 10/30/2002

10

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/727,748

Applicant(s)

HARIDOSS ET AL.

Examiner

Gregg Cantelmo

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-- The MAILING DATE of this communication appears on the cover sheet with the corresponding address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 September 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10, 14-16 and 18-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10, 14-16 and 18-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 September 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

Response to Amendment

1. In response to the amendment received September 3, 2002:
 - a. Claims 11-13 and 17 have been cancelled as per Applicant's request;
 - b. The drawing objections have been withdrawn;
 - c. The objection to the abstract has been withdrawn;
 - d. The 102 rejection of Breault stands;
 - e. The 102 rejections of Narayana and Mitsunaga have been withdrawn in light of the amendment of the claims.

Drawings

2. The proposed drawing correction and/or the proposed substitute sheets of drawings, filed on September 3, 2002 have been approved. A proper drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The correction to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-10, 14-16 and 18-24 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by U.S. patent No. 4,017,663 (Breault).

Breault discloses a fuel cell electrode comprising a catalyst, a first material of tungsten oxide (same first material as identified in the instant claims and thus inherently resistant to oxidation up to about 3 volts vs. SHE) and a non-electrolytic material different than the catalyst (col. 2, line 66 through col. 3, line 5 and prior art claim 6). The catalyst is distributed on the graphite *and tungsten oxide* (see prior art claim 1). The catalyst load is 0.25 mg/cm^3 (col. 3, ll. 40-45 as applied to claim 1).

A first resistant material of tungsten oxide is also present in the electrode mixture. The noble metal catalyst is mixed with the tungsten oxide. Since the material is the same as those set forth in the species of the instant claims, the tungsten oxide in the prior art composition is expected to have the same properties. A chemical composition and its properties are inseparable. Therefore, if the prior art teaches the identical chemical structure, the properties applicant discloses and/or claims are necessarily present. In re Spada, 911 F.2d 705, 709, 15 USPQ2d 1655, 1658. Where the claimed and prior art products are identical or substantially identical in structure or composition, or are produced by identical or substantially identical processes, a prima facie case of either anticipation or obviousness has been established. In re Best, 562 F.2d 1252, 1255, 195 USPQ 430, 433 (CCPA 1977). See col. 3, ll. 3 and col. 3, ll. 26-31 of Breault as applied to claim 1).

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The catalysts are Pt and Ru which are capable of catalyzing oxidation of a fuel cell gas and capable of undergoing reversible oxide formation (col. 3, ll. 1-2 as applied to claims 2, 4, and 5).

The fuel cell gas inherently comprises hydrogen (as applied to claim 3).

The composition of the electrode comprises 32 weight percent of each of the Pt and Ru catalysts (col. 3, ll. 1-2 as applied to claim 6).

The non-electrolytic material in this example is 20 weight percent Teflon i.e., polytetrafluoroethylene (col. 3, ll. 3 as applied to claims 7, 8 and 10).

Alternatively the non-electrolytic material can be FEP-120 which is a copolymer of tetrafluoroethylene and hexafluoropropylene (col. 2, ll. 55-60 as applied to claims 8 and 9).

The first material is tungsten oxide (as applied to claims 14 and 15).

The composition comprises a catalyst, a first material resistant to oxidation up to about 3.0 V vs. SHE, wherein the catalyst is distributed on the graphite *and tungsten oxide* and the first material compose a fuel cell electrode (prior art claim 8 as applied to claim 16).

The catalyst load is 0.25 mg/cm³ (prior art claim 8 as applied to claim 18).

The first material is tungsten oxide (as applied to claims 19 and 20).

The composition comprises: a catalyst capable of catalyzing oxidation of a fuel cell gas, a first material resistant to oxidation up to about 3.0 V vs. SHE, a PTFE binder

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containing non-electrolytic material and further containing the first material and the catalyst, wherein the catalyst is distributed on the graphite *and* tungsten oxide (first material) and the composition composes a fuel cell electrode (prior art claim 8 as applied to claim 21).

The catalyst is platinum (prior art claim 8 as applied to claim 22).

The first material is tungsten oxide (prior art claim 8 as applied to claim 23).

The non-electrolytic material is PTFE (prior art claim 8 as applied to claim 24).

Response to Arguments

5. Applicant's arguments filed September 3, 2002 have been fully considered but they are not persuasive. Applicant argues:

That Breault does not disclose of the catalyst being distributed on the tungsten oxide. The Examiner respectfully disagrees.

Applicant's attention is drawn to prior art claim 8, as identified above and in the previous office action. Therein Breault claims that the catalyst of platinum supported on *graphite and tungsten oxide*. Thus this teaching indicates that the catalyst is supported on both the graphite and tungsten oxide, contrary to Applicant's arguments.

The with language identified in column 3 of Breault and emphasized by Applicant as showing that the platinum is not supported on the tungsten oxide is not persuasive. First since prior art claim 8 teaches otherwise. Second since the with language in column 3 is not explicitly clear that this term is to indicate only the platinum is on the graphite and that this is further with a composition of tungsten oxide. In the context of

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prior art claim 8, the teachings of column 3 would lead one to conclude that the with language is a mixture of graphite with tungsten oxide and that the platinum is applied to that mixture.

Even further if the platinum is applied only to the graphite, and that mixture is combined with the tungsten oxide, platinum material will inherently contact the tungsten oxide surfaces in the mixture and thus be a further teaching of platinum in contact with and thus present on at least a portion of the surface of the tungsten oxide.

Therefore the prior art of Breault is still held to anticipated the amended claims.

For the record Applicant argues to claims 1-24, while it is noted that claims 11-13 and 17 are no longer pending. Thus the Examiner has applied the arguments to pending claims 1-10, 14-16 and 18-24.

Conclusion

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

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extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gregg Cantelmo whose telephone number is 703-305-0635. The examiner can normally be reached on Monday to Thursday, 8:00-5:30.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Pat Ryan can be reached on 703-308-2383. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-0000 for regular communications and 703-305-3599 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0000.

Gregg Cantelmo
Patent Examiner
Art Unit 1745

gc

October 29, 2002



Gregg Cantelmo
Patent Examiner
Art Unit 1745